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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/120,664	07/22/1998	DAVID F. GAVIN	101792-100	2454

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WIGGIN AND DANA LLP
ATTENTION: PATENT DOCKETING
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EXAMINER

CELSA, BENNETT M

ART UNIT	PAPER NUMBER
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1639

DATE MAILED: 07/21/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<p align="center">Office Action Summary</p>	<p>Application No.</p> <p>09/120,664</p>	<p>Applicant(s)</p> <p>GAVIN ET AL.</p>	
	<p>Examiner</p> <p>Bennett Celsa</p>	<p>Art Unit</p> <p>1639</p>	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 December 1899.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,38 and 40-46 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,38 and 40-46 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| <p>1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)</p> <p>2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)</p> <p>3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
 Paper No(s)/Mail Date _____.</p> | <p>4) <input type="checkbox"/> Interview Summary (PTO-413)
 Paper No(s)/Mail Date. _____.</p> <p>5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)</p> <p>6) <input type="checkbox"/> Other: _____.</p> |
|---|---|

DETAILED ACTION

Continued Prosecution Application

1. The request filed on 5/26/04 for a Continued Prosecution Application (CPA) under 37 CFR 1.53(d) based on parent Application No. 09/120,664 is acceptable and a CPA has been established. An action on the CPA follows.

Status of the Claims

Claims 1, 38 and 40-46 are currently pending and under consideration to the extent of the elected invention..

Election/Restriction

The restriction/election requirement of the parent application is hereby reinstated here in conformance with established practice. See MPEP 819 (CPA/FWC non-divisional carries over restriction/election unless otherwise indicated by applicant).

Restriction (with election of species) to one of the following inventions was required under 35 U.S.C. 121:

- I. Claims 1-11 and 35-38, drawn to a composition (e.g. biocidal) comprising composite particles of a metal containing core and a pyrrithione adduct shell, classified in class 424 , subclass 405.
- II. Claims 12-24 and 32-34, drawn to a method of making a composite particle copper pyrrithione, classified in class 514 , subclass 345+.
- III.. Claims 25-31, drawn to a coating composition and method of using to reduce/inhibit organisms, classified in class 156, subclass 300+.

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- IV. Claim 39 , drawn to a shampoo or skin care composition comprising composite particles of a metal core and a pyrithione shell, classified in class 510, subclass 119.

2. Applicant's election with traverse of Group I (claims 1-11 and 35-38: corresponding to present claims 1, 38 and 40-46) in Paper No. 4 is again acknowledged. Applicant's traversal was considered but deemed nonpersuasive for reasons already of record.

3. In response to the election of species requirement, applicant's elected, without traverse, zinc pyrithione which reads on claims 1, 38 and 40-46, respectively.

4. The requirement has previously been made FINAL.

Drawings

5. This application has been filed with informal drawings (as indicated by applicant) which are acceptable for examination purposes only. Formal drawings will be required when the application is allowed.

Claim Rejections - 35 USC § 112

6. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

7. Claims 42, 45 and 46 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to

reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention (NEW MATTER REJECTION) .

New claim 42 (and dependent claims 45 and 46) recite "wherein the metal pyrithione ... within a weight range of ratios of from 1:20 to 20:1 of metal pyrithione relative to the metal or metal-containing compound" constitutes new matter since the specification (e.g. page 10) provides support for the ratio only when the metal is copper (e.g. copper pyrithione) and not for any of the other metals.

Claim Rejections - 35 USC § 102

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in-

(1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effect under this subsection of a national application published under section 122(b) only if the international application designating the United States was published under Article 21(2)(a) of such treaty in the English language; or
(2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that a patent shall not be deemed filed in the United States for the purposes of this subsection based on the filing of an international application filed under the treaty defined in section 351(a).

9. Claims 1, 38, 40, 41, 43 and 44 are rejected under 35 U.S.C. 102(e) as being anticipated by Morris US Pat. No. 5,916,947 (6/99: filed 9/96 or earlier).

The claims (e.g. claims 1 and 38, and dependents thereon) are drawn to:

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Biocidal compositions comprising “composite particles” having a “shell” and a “core” wherein:
the “core” comprises a metal (e.g. zinc) or metal compound (e.g. zinc oxide/selenide);
and
the “shell” comprises “metal (e.g. zinc) pyrrithione”;
wherein the “metal pyrrithione” is formed by reaction of a “pyrrithione acid” or a “water-soluble pyrrithione salt” (e.g. sodium pyrrithione) with the core metal or metal compound.

Morris et al. disclose a biocidal composition comprising zinc pyrrithione powder (e.g. see col. 7, lines 4-10 and col. 8, lines 29-31) which meet the “composite particle” definition e.g. powder comprises particles.

Additionally, Morris et al. further discloses a biocidal particle composition (e.g. see col. 1, lines 10-20) that comprises a zinc core (e.g. zinc oxide) and a zinc pyrrithione “shell” (e.g. see Example 1 and patent claims 1-17).

More particularly, Morris describes an antifouling coating composition in which zinc oxide has been surface coated by a “photosensitizer” (e.g. page 1, Abstract; patent claims 1 and 15) such as zinc pyrrithione (e.g. see patent claim 1: small photosensitizer Markush includes zinc pyrrithione: see col. 6-7 and col. 8, lines 29-31). Morris teaches surface-coating the zinc oxide with the “photosensitizer” as well as mixing zinc oxide with the “photosensitizer” (e.g. zinc pyrrithione: see col. 8, lines 25-32) .

Thus the Morris reference clearly teaches biocidal particles comprising a zinc oxide core and a zinc pyrrithione shell; although failing to explicitly teach that the *metal*

pyrithione is formed by reacting a pyrithione acid/salt with the core metal/metal compound.

It is noteworthy that the present claim recites the metal pyrithione shell by its means of manufacture e.g. in product-by-process format (e.g. *metal pyrithione is formed by reacting a pyrithione acid/salt with the core metal/metal compound*).

The Morris et al. particle complex which possesses ingredients within the scope of the presently claimed would inherently possess the same physical parameters as presently claimed (e.g. core/shell structure) regardless of its means of manufacture. In this regard, where the claimed and prior art products are identical or substantially identical in structure or composition (as in the present case) or are produced by identical or substantially identical processes, a prima facie case of either anticipation or obviousness has been established. *In re Best*, 562 F.2d 1252, 1255, 195 USPQ 430, 433 (CCPA 1977). "When the PTO shows a sound basis for believing that the products of the appellant and the prior art are the same, the appellant has the burden of showing that they are not." *In re Spada*, 911 F.2d 705, 709, 15 USPQ2d 1655, 1658 (Fed. Cir. 1990). For a chemical composition and its properties are inseparable. Therefore, since the prior art teaches the identical or substantially identical chemical structure, the properties appellant discloses and/or claims are necessarily present. *In re Spada*, 911 F.2d 705, 709, 15 USPQ2d 1655, 1658 (Fed. Cir. 1990); and MPEP 2112.01. The PTO lacks the facilities for making comparisons between prior art and claimed compositions.

10. Claims 1, 38, 40, 41, 43 and 44 are rejected under 35 U.S.C. 102(e) as being anticipated by Hani et al. US Pat. No. 6,162,446 (12/00: filed 3/98).

The claims (e.g. claims 1 and 38, and dependents thereon) are drawn to:

Biocidal compositions comprising "composite particles" having a "shell" and a "core" wherein:
the "core" comprises a metal (e.g. zinc) or metal compound (e.g. zinc oxide/selenide);
and
the "shell" comprises "metal (e.g. zinc) pyrrithione";
wherein the "metal pyrrithione" is formed by reaction of a "pyrrithione acid" or a "water-soluble pyrrithione salt" (e.g. sodium pyrrithione) with the core metal or metal compound.

Hani et al. teach "biocidal" (e.g. antimicrobial: see col.1) compositions comprising zinc pyrrithione particles (e.g. the "shell" component) produced by an *in situ* transchelation reaction of:

- a. pyrrithione acid or a soluble salt (e.g. Na/K pyrrithione: see bottom of col. 3 to col. 4);
and
- b. a metal (e.g. zinc) compound (e.g. the "core" component; including zinc oxide: see col. 3, lines 53-65)

for incorporation into personal care compositions.

See Abstract; col. 2-4; Examples 1 and 2; patent claims, especially claims 1, 6, 8, 9 and 16-20.

The Hani et al. particle complex which possesses ingredients within the scope of the presently claimed would inherently possess the same physical parameters as presently claimed (e.g. core/shell structure), especially since both its components and

the means of making the zinc pyrithione shell is the same e.g. transchelation reaction between a zinc compound and a pyrithione acid/salt. In this regard, where the claimed and prior art products are identical or substantially identical in structure or composition (as in the present case) or are produced by identical or substantially identical processes (as is also the case), a prima facie case of either anticipation or obviousness has been established. *In re Best*, 562 F.2d 1252, 1255, 195 USPQ 430, 433 (CCPA 1977). "When the PTO shows a sound basis for believing that the products of the appellant and the prior art are the same, the appellant has the burden of showing that they are not." *In re Spada*, 911 F.2d 705, 709, 15 USPQ2d 1655, 1658 (Fed. Cir. 1990). For a chemical composition and its properties are inseparable. Therefore, since the prior art teaches the identical or substantially identical chemical structure, the properties appellant discloses and/or claims are necessarily present. *In re Spada*, 911 F.2d 705, 709, 15 USPQ2d 1655, 1658 (Fed. Cir. 1990); and MPEP 2112.01. The PTO lacks the facilities for making comparisons between prior art and claimed compositions.

11. Claims 1, 38, 40, 41, 43 and 44 are rejected under 35 U.S.C. 102(e) as being anticipated by Mohseni et al. US Pat. No. 6,465,015 (10/02: filed 2/98).

The claims (e.g. claims 1 and 38, and dependents thereon) are drawn to:

Biocidal compositions comprising "composite particles" having a "shell" and a "core" wherein:
the "core" comprises a metal (e.g. zinc) or metal compound (e.g. zinc oxide/selenide);
and
the "shell" comprises "metal (e.g. zinc) pyrithione";

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wherein the “metal pyrithione” is formed by reaction of a “pyrithione acid” or a “water-soluble pyrithione salt” (e.g. sodium pyrithione) with the core metal or metal compound.

Mohseni et al. teach “biocidal” (e.g. see bottom of col. 2) compositions comprising metal (e.g. zinc) pyrithione particles (e.g. the “shell” component) produced by a transchelation reaction (e.g. see patent claim 3) of:

a. pyrithione acid or a soluble salt (e.g. Na/K pyrithione: see examples; patent claims especially claims 28, 29 and 42); and

b. a zinc compound (e.g. the “core” component “comprises zinc”; including zinc sulfate: see examples; patent claims, especially claims 3-42)

for incorporation into personal care products (e.g. examples 8-10).

See also: Abstract; col. 6-8; Examples 1 and 4; patent claims, especially claims 1, 6, 8, 9 and 16-20.

The Mohseni et al. particles possesses ingredients within the scope of the presently claimed which would inherently possess the same physical parameters as presently claimed (e.g. core/shell structure), especially since both its components and the means of making the zinc pyrithione shell is the same e.g. transchelation reaction between a metal (e.g. zinc) compound and a pyrithione acid/salt. In this regard, where the claimed and prior art products are identical or substantially identical in structure or composition (as in the present case) or are produced by identical or substantially identical processes (as in the present case), a prima facie case of either anticipation or obviousness has been established. *In re Best*, 562 F.2d 1252, 1255, 195 USPQ 430,

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433 (CCPA 1977). "When the PTO shows a sound basis for believing that the products of the appellant and the prior art are the same, the appellant has the burden of showing that they are not." *In re Spada*, 911 F.2d 705, 709, 15 USPQ2d 1655, 1658 (Fed. Cir. 1990). For a chemical composition and its properties are inseparable. Therefore, since the prior art teaches the identical or substantially identical chemical structure, the properties appellant discloses and/or claims are necessarily present. *In re Spada*, 911 F.2d 705, 709, 15 USPQ2d 1655, 1658 (Fed. Cir. 1990); and MPEP 2112.01. The PTO lacks the facilities for making comparisons between prior art and claimed compositions.

12. Claims 1, 38 and 40-46 are rejected under 35 U.S.C. 103(a) as being unpatentable over Morris US Pat. No. 5,916,947, Hani et al. US Pat. No. 6,162,446 or Mohseni et al. US Pat. No. 6,465,015 as applied to claims 1, 38, 40, 41, 43 and 44 above, and further in view of Kappock et al. US Pat. No. 5,518,774 (5/96).

The Morris, Hani et al. and Mohseni et al. reference teachings as described above is herein incorporated by reference in their entirety.

Although the Morris, Hani or Mohseni references all teach biocidal compositions comprising pyrrithione metal composite particles formed by reacting (e.g. transchelating) a "core" metal (e.g. zinc) or metal compound (e.g. zinc oxide/selenide) with a "pyrrithione acid" or a "water-soluble pyrrithione salt" (e.g. sodium pyrrithione) compound, the references differ by failing to explicitly teach a "shell" (e.g. metal (zinc) pyrrithione) to "core" e.g. (zinc)

metal or metal-containing compound ratio of 1:20 to 20:1. See new claim 42 and dependent claims 45 and 46.

However, the Kappock et al. reference teach metal ion-containing compounds transchelated with pyrithione and its salts to form biocidal particle coating compositions; which its components can be provided in an amount sufficient to provide a molar ratio of pyrithione salt to metal ion-containing compound of between about 1:10 and about 10:1. However, if zinc is employed as the metal, the amount of zinc compound should be optimized to enable complete conversion of the pyrithione salt by transchelation to zinc pyrithione during storage of the coating composition. See Kappock et al. Col. 2-3, especially col. 3, lines 12-32.

Accordingly, the Kappock et al. reference provides ample motivation to one of ordinary skill in the art at the time of applicant's invention to optimize the transchelation reaction components in order to obtain composite particles comprising metal pyrithione to metal or metal containing compound core components of about 1:10 and about 10:1 or otherwise optimize and obtain ratio amounts within the scope of the presently claimed invention.

Thus, it would have been prima facie obvious to one of ordinary skill in the art at the time of applicant's invention to modify the transchelation reaction components of the Morris, Hani et al. and Mohseni et al. reference compositions to arrive at metal pyrithione:pyrithione acid/salt weight proportions within the presently claimed invention (e.g. 1:20 to 20:1) especially in view of the Kappock reference teaching that optimizing

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the reaction components is important to enable complete conversion of the pyrrithione salt by transchelation to zinc pyrrithione.

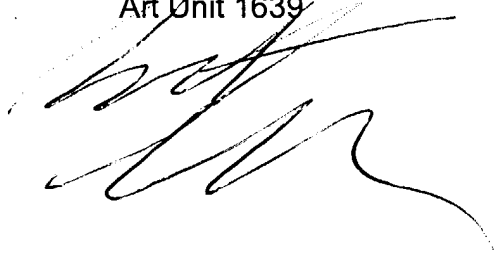
Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Bennett Celsa whose telephone number is 571-272-0807. The examiner can normally be reached on 8-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Andrew Wang can be reached on 571-273-0811. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Bennett Celsa
Primary Examiner
Art Unit 1639



BC
July 14, 2004